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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/777,822

02/11/2004

Naoki Miyano

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02/14/2006

KODA & ANDROLIA  
2029 CENTURY PARK EAST  
SUITE 1140  
LOS ANGELES, CA 90067

EXAMINER

POLYZOS, FAYE S

ART UNIT

PAPER NUMBER

2884

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/777,822

Applicant(s)

MIYANO ET AL

Examiner

Faye Polyzos

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 14 and 17 is/are rejected.
- 7) ☒ Claim(s) 12, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/4/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by *Coombs et al* (US 5,949,582 A).

Regarding claim 1, Coombs discloses an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera and the display are arranged to be within an outline of the user's head in a front view when the device is put on the user (See Generally Figs. 1-4 and col. 4, lines 15-45).

Regarding claim 2, Coombs discloses an abnormality detection system device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; wherein the

infrared camera is arranged on a line extending through the user's left and right eyes and near one of the eyes (See Generally Figs. 1-4 and col. 4, lines 15-45).

Regarding claim 3, Coombs discloses an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera is arranged so that a center of gravity is put over a virtual center line of any one of the face protector and the helmet (See Generally Figs. 1-4 and col. 4, lines 15-45).

Regarding claim 17, Coombs discloses an abnormal detection support device wherein: at least one of a camera control device, a radio data transmission device and a battery (36) is provided to one of the face protector (12) and the helmet (34); and at least one of the camera control device, the radio data transmission device and the battery (36), and the infrared camera (10) are arranged so that a center of gravity is put over the virtual center line of one of the face protector and the helmet (See Generally Figs. 1-4 and col. 4, lines 15-45).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-6 and 8-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Coombs et al* (US 5,949,582 A) in view of *Gordon et al* (US 6,606,114 B1).

Regarding claim 4, Coombs discloses an abnormality detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of the user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided (See Generally Figs. 1-4 and col. 4, lines 15-45). Coombs does not disclose the infrared camera arranged in a position near a jaw portion of the user. Gordon discloses an abnormality detection support device comprising an infrared camera (16) and a display (20); wherein the infrared camera is arranged in a position near a jaw portion of the user (See Generally Fig. 1 and col. 3, lines 60-67 and col. 4, lines 1-13). Gordon teaches the thermal or infrared sensor camera (16) is mounted to the shroud so as to reside generally underneath the helmet brim (14A) whereby the camera is protected from falling objects striking the top portions of the helmet cap (13A) and brim (14A) and also to cause the camera to reside within the envelope of reduced heat (col. 7, lines 35-52). Therefore, it would have been obvious to modify the device disclosed by Coombs to include an arrangement wherein the infrared camera is positioned near a jaw portion of the user, as disclosed supra by Gordon, to allow for a more versatile apparatus.

Regarding claim 5, Coombs discloses an abnormality detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared

camera is in use, comes to be positioned in front of the user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; and the image taken by the infrared camera is reproduced on the display in a position in front of the user's eyes by optical or electrical coordinate conversion (See Generally Figs. 1-4 and col. 4, lines 15-45). Coombs does not disclose wherein the infrared camera is arranged separate from the display. Gordon discloses an abnormality detection support device comprising; an infrared camera (16) arranged in a position separate from the display (20) in a front view and the image taken by the infrared camera is reproduced on the display in a position in front of the user's eye by optical or electrical coordinate conversion (See Generally Fig. 1 and col. 3, lines 60-67 and col. 4, lines 1-13). Gordon teaches the display apparatus (20) may be mounted pivotally to the helmet 12 for movement into a plurality of in use positions relative to the helmet and into a stowed position relative to the helmet. The mounting member (60) includes a dual pivot mounting arm (140) which is connected pivotally to the display apparatus (20) by pivot pin (142) and which is also mounted pivotally by pivot pin (143) to an in-use position lock arm (145). Arm (145) is mounted pivotally by pin (146) to a mounting base (148) which is mounted to the helmet (12) by suitable mounting means, not shown, such as suitable screws or bolts. The in-use position lock arm (145) is rotated about the pivot pin (146) only to move the display apparatus (20) into the stowed position (col. 9, lines 48-61). Therefore, it would have been obvious to modify the

system disclosed by Coombs, to include infrared camera arrangement separate from the display, as disclosed supra by Gordon, to allow for a more versatile apparatus.

Regarding claim 6, Gordon discloses the abnormality detection support device comprises a display being of a monocular type (See Generally Fig. 1 and col.7, lines 25-31).

Regarding claims 8-9, Gordon discloses the abnormality detection support device wherein the infrared camera can be attached or detached from one of the face protector and the helmet with the user's simple operation (col. 7, lines 40-52).

Regarding claim 10, Gordon discloses the abnormality detection support device wherein the display can be moved to another position so as to be out of the user's view when the display is not in use (col. 11, lines 66-67 and col. 12, lines 1-31).

Regarding claim 11, Gordon discloses the abnormality detection support device wherein the infrared camera and the display are arranged on a same side with respect to a virtual center line which divides a front of a head of the user into right and left portions (col. 10, lines 39-67 and col. 11, lines 1-7).

Regarding claim 13, Gordon discloses the abnormality detection support device wherein an adjustment mechanism for adjusting a position and an angle of the display is provided (See Generally Fig. 15 and col. 10, lines 39-53).

5. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Coombs et al* (US 5,949,582 A) and *Gordon et al* (US 6,606,114 B1) as applied to claims 1 to 5 above, and further in view of *Zhang et al* (US 6,476,391 B1).

Regarding claim 7, Coombs discloses an abnormality detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of the user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; and the image taken by the infrared camera is reproduced on the display in a position in front of the user's eyes by optical or electrical coordinate conversion (See Generally Figs. 1-4 and col. 4, lines 15-45). Gordon discloses an abnormality detection support device comprising: an infrared camera (16) arranged in a position separate from the display (20) in a front view and the image taken by the infrared camera is reproduced on the display in a position in front of the user's eye by optical or electrical coordinate conversion (See Generally Fig. 1 and col. 3, lines 60-67 and col. 4, lines 1-13). Neither Coombs nor Gordon disclose a transmission device for transmitting signal to a remote location. Zhang discloses an abnormality detection support device wherein one of the face protector (12) and the helmet (10) is equipped with a radio data transmission device (34) for radio-transmitting an image signal of the infrared camera to a radio receiver provided in a remote location (See Generally Fig. 1 and col. 3, lines 31-36 and lines 44-51). Zhang teaches the IR images can be sent to the fire truck and headquarters (50) by an antenna (36) on the transmitter and receiver (34), and a transmitter and receiver (54) at the fire station (52). The fire truck and headquarters also can send the building plan, operation manual and instructions to the fire fighter through the antenna and display them on the combiner (32) (See Generally Fig. 1 and



col. 3, lines 31-36). Therefore, it would have been obvious to modify the device suggested by Coombs and Gordon to include a radio data transmission device, as disclosed by Zhang, to allow for a more versatile device.

Regarding claim 14, Zhang discloses the abnormality detection support device wherein the radio data transmission device can receive radio data from a remote location (col. 3, lines 31-43).

***Allowable Subject Matter***

6. Claims 12 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding dependent claim 12, the prior art, does not disclose or fairly suggest an abnormality detection support device wherein the inner surface of the shield and a surface of the display are fog-proofed.

Regarding dependent claims 15 and 16, the prior art, does not disclose or fairly suggest an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Polyzos whose telephone number is 571-272-

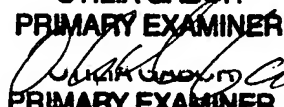
Art Unit: 2884

2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FP

OTILIA GABOR  
PRIMARY EXAMINER  
  
PRIMARY EXAMINER